

### **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously Presented) A nucleic acid vector for the expression of at least two cistrons comprising:
  - a. a promoter operably linked to a nucleotide sequence comprising at least two cistrons; and
  - b. at least one nucleotide sequence comprising SEQ ID NO. 1, or a variant or fragment thereof operably linked to at least one of said at least two cistrons, wherein said nucleotide sequence comprising SEQ ID NO. 1, or variant or fragment thereof, provides IRES activity.
2. (Previously Presented) The nucleic acid vector of claim 1, wherein at least one of said at least two cistrons comprises a reporter gene.
3. (Previously Presented) The nucleic acid vector of claim 1, wherein at least one of said at least two cistrons comprises a therapeutic gene.
4. (Previously Presented) A biological vector capable of expressing at least two cistrons comprising the nucleic acid vector of claim 1.
5. (Previously Presented) The biological vector of claim 4, wherein said biological vector is selected from poxvirus, adenovirus, herpesvirus, adeno-associated virus, retrovirus, and baculovirus.
- 6-11. (Canceled)

12. (Previously Presented) A host cell comprising the nucleic acid vector of claim 1.

13. (Previously Presented) The host cell of claim 12, wherein said host cell is an insect cell.

14. (Previously Presented) The host cell of claim 13, wherein said insect cell is a *Drosophila* cell.

15-16. (Canceled)

17. (Currently Amended) A method for expressing at least two cistrons comprising: introducing into a host cell[:]] a nucleic acid vector comprising:

a. a promoter operably linked to a nucleotide sequence comprising at least two cistrons; and

b. at least one nucleotide sequence comprising SEQ ID NO. 1, or a variant or fragment thereof operably linked to at least one of said at least two cistrons, wherein said nucleotide sequence comprising SEQ ID NO. 1, or variant or fragment thereof, provides IRES activity.

18-19. (Canceled)

20. (Previously Presented) A baculovirus transfer vector for the expression of at least two cistrons comprising:

a. a polyhedrin promoter operably linked to a nucleotide sequence comprising at least two cistrons; and

b. at least one nucleotide sequence comprising SEQ ID NO. 1, or a variant or fragment thereof, operably linked to at least one of said at least two cistrons, wherein

said nucleotide sequence comprising SEQ ID NO. 1, or variant or fragment thereof provides IRES activity.

21. (Previously Presented) The baculovirus transfer vector of claim 20, wherein at least one of at least two cistrons comprises a reporter gene.

22. (Previously Presented) The baculovirus transfer vector of claim 20, wherein at least one of at least two cistrons comprises a therapeutic gene.

23. (Currently Amended) A recombinant baculovirus capable of expressing at least two cistrons in a host cell comprising a baculovirus genome comprising:

- a. a polyhedrin promoter operably linked to a nucleotide sequence comprising at least two cistrons; and
- b. at least one nucleotide sequence comprising SEQ ID NO. 1, or a variant or fragment thereof operably linked to at least one of said at least two cistrons, wherein said nucleotide sequence comprising SEQ ID NO. 1, or ~~homolog~~, variant or fragment thereof, provides IRES activity.

24. (Previously Presented) A method for producing a recombinant baculovirus capable of expressing at least two cistrons comprising:

- a. introducing a baculovirus transfer vector of claim 20 and a baculovirus genomic DNA into a baculovirus host cell so as to effect homologous recombination; and
- b. isolating a recombinant baculovirus.

25. (Previously Presented) The method of claim 24, wherein said recombinant baculovirus is isolated by selecting plaques expressing at least one of said at least two cistrons.

26. (Previously Presented) A baculovirus host cell expressing at least two cistrons comprising the recombinant baculovirus of claim 23.

27-35. (Canceled)

36. (Withdrawn - Currently Amended) A method of treating a patient comprising administering the nucleic acid vector of claim 1 ~~or~~ 6.

37. (Withdrawn - Currently Amended) A method of treating a patient comprising administering the biological vector of claim 4 ~~or~~ 10.

38. (Withdrawn - Currently Amended) A method of treating a patient comprising:

- a. excising a cell or tissue from said patient;
- b. introducing the nucleic acid vector of claim 1 ~~or~~ 6 into said excised cell or tissue; and
- c. reimplanting said cell or tissue into said patient.

39. (Withdrawn - Currently Amended) A method of treating a patient comprising:

- a. excising a cell or tissue from said patient;
- b. introducing the biological vector of claim 4 ~~or~~ 10 into said excised cell or tissue; and
- c. reimplanting said cell or tissue into said patient.

40. (New) A recombinant nucleic acid vector, wherein the vector comprises at least two cistrons and at least one nucleotide sequence that provides IRES activity operably linked to at least one of said at least two cistrons, wherein the nucleotide sequence that provides IRES activity comprises a nucleotide sequence selected from the group consisting of:

- a. a nucleotide sequence comprising SEQ ID NO. 1;
- b. a nucleotide sequence comprising nucleotides 1-215 of SEQ ID NO. 1;
- c. a nucleotide sequence comprising nucleotides 45-239 of SEQ ID NO. 1;
- d. a nucleotide sequence comprising nucleotides 45-215 of SEQ ID NO. 1;
- e. a nucleotide sequence comprising nucleotides 1-74 and 187-239 of SEQ ID NO. 1;
- f. a nucleotide sequence comprising nucleotides 1-74 and 187-215 of SEQ ID NO. 1;
- g. a nucleotide sequence that differs from a nucleotide sequence comprising SEQ ID NO. 1 by substitution of the nucleotides at positions 124-127 of SEQ ID NO. 1;
- h. a nucleotide sequence comprising SEQ ID NO. 2; and
- i. a nucleotide sequence that differs from a nucleotide sequence comprising SEQ ID NO. 2 by substitution of the nucleotides at positions 136-139 of SEQ ID NO. 2.

41. (New) The recombinant nucleic acid vector of claim 40, wherein at least one of said at least two cistrons comprises a reporter gene.

42. (New) The recombinant nucleic acid vector of claim 40, wherein at least one of said at least two cistrons comprises a therapeutic gene.
43. (New) A biological vector comprising the recombinant nucleic acid vector of claim 40.
44. (New) The biological vector of claim 43, wherein said biological vector is selected from poxvirus, adenovirus, herpesvirus, adeno-associated virus, retrovirus, and baculovirus.
45. (New) A host cell comprising the recombinant nucleic acid vector of claim 40.
46. (New) A method for expressing at least two cistrons, comprising introducing into a host cell the recombinant nucleic acid vector of claim 40 and expressing the two cistrons of the vector.
47. (New) The recombinant nucleic acid vector of claim 40, wherein the vector is a recombinant baculovirus transfer vector.
48. (New) The recombinant baculovirus transfer vector of claim 47, wherein at least one of said at least two cistrons comprises a reporter gene.
49. (New) The recombinant baculovirus transfer vector of claim 47, wherein at least one of said at least two cistrons comprises a therapeutic gene.
50. (New) A recombinant baculovirus, wherein the recombinant baculovirus comprises a baculovirus genome comprising at least two cistrons and at least one

nucleotide sequence that provides IRES activity operably linked to at least one of said at least two cistrons, wherein the nucleotide sequence that provides IRES activity comprises a nucleotide sequence selected from the group consisting of:

- a. a nucleotide sequence comprising SEQ ID NO. 1;
- b. a nucleotide sequence comprising nucleotides 1-215 of SEQ ID NO. 1;
- c. a nucleotide sequence comprising nucleotides 45-239 of SEQ ID NO. 1;
- d. a nucleotide sequence comprising nucleotides 45-215 of SEQ ID NO. 1;
- e. a nucleotide sequence comprising nucleotides 1-74 and 187-239 of SEQ ID NO. 1;
- f. a nucleotide sequence comprising nucleotides 1-74 and 187-215 of SEQ ID NO. 1;
- g. a nucleotide sequence that differs from a nucleotide sequence comprising SEQ ID NO. 1 by substitution of the nucleotides at positions 124-127 of SEQ ID NO. 1;
- h. a nucleotide sequence comprising SEQ ID NO. 2; and
- i. a nucleotide sequence that differs from a nucleotide sequence comprising SEQ ID NO. 2 by substitution of the nucleotides at positions 136-139 of SEQ ID NO. 2.

51. (New) A method for producing a recombinant baculovirus that expresses at least two cistrons comprising introducing the baculovirus transfer vector of claim 47 and a baculovirus genomic DNA into a baculovirus host cells so as to effect homologous recombination, then isolating the recombinant baculovirus.

52. (New) A baculovirus host cell comprising the recombinant baculovirus of claim 50.

53. (New) A recombinant nucleic acid vector, wherein the vector comprises at least two cistrons and at least one nucleotide sequence that provides IRES activity operably linked to at least one of said at least two cistrons, wherein the nucleotide sequence that provides IRES activity comprises a nucleotide sequence selected from the group consisting of:

a. a nucleotide sequence at least 90% identical to SEQ ID NO. 1, as determined by the Smith and Waterman alignment method;

b. a nucleotide sequence at least 90% identical to SEQ ID NO. 2 as determined by the Smith and Waterman alignment method;

c. a nucleotide sequence at least 80% identical to SEQ ID NO. 1, as determined by the Smith and Waterman alignment method;

d. a nucleotide sequence at least 80% identical to SEQ ID NO. 2 as determined by the Smith and Waterman alignment method; and

e. a nucleotide sequence that differs from a nucleotide sequence comprising SEQ ID NO. 2 by substitution of the nucleotides at positions 126-129 of SEQ ID NO.

2.